

**GREVILLEA MONTIS-COLE SP. NOV. (PROTEACEAE)
FROM VICTORIA**

by

R. V. SMITH*

ABSTRACT

Grevillea montis-cole, a new species from western Victoria, is described and its affinities discussed. Two subspecies, *montis-cole* and *brevistyla*, are distinguished.

DESCRIPTION

***Grevillea montis-cole* R. V. Smith, sp. nov.**

Frutex ad 1.5 m altus x 3.6 m latus. Tomentum et ramorum superiorum et foliorum et inflorescentiarum plerumque pilorum patentium vel rectorum vel curvatorum vel torquatorum. *Folia* (1-)2-7(-13.5) cm longa x (1-)2-5(-7.5) cm lata, plerumque longiora quam lata, in (3-)5-12(-22) lobis primariis, ± triangularibus ad ellipticis-oblongis profunde dissecta, qui aut simplices aut 1-5 lobos secundarios breves ± triangulares habent; quisque lobus primarius secundariusque in aculeum gracile rigidum terminans. Superficies supra foliorum adutorum vivide viridis, subnitens, paene omnino glabra; superficies infera pallide viridis, hebetata, pilis sparsis plerumque in costa et venis principalibus. *Inflorescentia* racemus secundus, horizontalis ad parum deflexus, 0.6-4 cm longus. *Pedunculus* teretus ad parum angulatus, 0.5-3.5 cm longus. *Bractea floris* maxime variabiles, vel planae vel curvatae vel undulatae, erectae patentessve, ellipticae ad ovate-rhombeae, 1.5-4.5(-5) mm longae x 1-3(-3.5) mm latae. *Pedicelli* (1.0-)1.5-4.5(-5) mm longi. *Perianthium* 6-9(-10) mm longum (de medio toro ad summum arcu) x 1.5-3 mm latum, extus pilosum, intus glabrum, viride ad hinnuleum, arcu atropurpureo. *Torus* valde obliquus ad paene rectus, nectario semiannulari prominenti. *Stipes* 1-3 mm longus. *Ovarium* manifeste stipitatum, dense pilosum, pilis longis, erectis ad patentibus. *Stylus* vel 9-13 vel 17-21 mm longus, vivide ruber, vel rectus vel curvatus vel flexus, glaber praeter in base. *Fructus* manifeste stipitatus, 8-14 mm longus x 3-6 mm latus, dense pilosus, pilis brevibus longisque intermixtis.

Shrub 0.6-1.5 m high x 0.9-3.6 m wide, decumbent to semi-erect. Distal parts of branches ribbed or angled, sparsely to moderately hairy with straight, curved, waved or twisted hairs, the hairs sometimes loosely appressed but generally strongly spreading. Tips of branches and young leaves densely hairy with ferruginous or reddish-purple hairs. *Leaves*: petioles (2-)3-10(-12) mm long, with a sparse to dense indumentum similar to that of the distal branch-parts; blades broad- to narrow-triangular, truncated-ovate or truncated-elliptic in outline, ± truncate to cuneate at the base, (1-)2-7(-13.5) cm long x (1-)2-5(-7.5) cm wide with length (<-) = or > width, deeply divided into (3-)5-12(-22) primary lobes; *primary lobes* 0.5-2.5(-4) cm long, ± triangular to elliptic-oblong, symmetrically placed in opposite pairs or arranged asymmetrically, either simple or bearing 1-5 short ± triangular *secondary lobes*, each ultimate lobe terminating in a slender rigid prickle 1-2.5 mm long. Upper surface of mature leaves bright green, subshiny, almost glabrous except for a few basal hairs; lower surface pale green, dull, sparsely hairy with curved waved or twisted hairs mostly on the midrib and main veins; main midrib and midribs of primary lobes prominently projecting on lower surface. Young leaves mostly glabrous above. *Flowers* in horizontal to deflexed second racemes (0.6-)1.5-3.5(-4) cm long x (1.5-)2-3(-4) cm wide, terminating a terete to somewhat angled peduncle (0.5-)0.7-3(-3.5) cm long. *Peduncle* hairy or partly glabrous, usually with a single bract arising from below to well above the midpoint, occasionally a second bract also present; peduncle usually bent or geniculate at the bract. *Bract* 2-5(-7) mm long, shortly hairy and gently keeled on back, glabrous ventrally, flattish to infolded (sometimes upper margins infolded and the lower spreading or slightly recurved), broad- to narrow-lanceolate with an acute shortly subulate tip, or the tip occasionally trifid or expanded into an incipient leaf with a small lobed lamina. *Rhachis* with an indumentum

*National Herbarium of Victoria, Birdwood Avenue, South Yarra, Victoria 3141.

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Fig. 1. *Grevillea montis-cole* ssp. *montis-cole*. a — branch showing leaves and flowering racemes, x 1. b — young flower with pollen presenter still enclosed and with floral bract at base of pedicel, x 4. c — floral bracts showing variation in shape, x 8. d — fruiting raceme, x 1. e — mature flower, x 4. f — mature fruit, showing dark longitudinal bands and patches on dorsal and lateral surfaces, x 3. g — section through mature flower, showing oblique torus, stipitate ovary, style and pollen presenter, x 4. a-c, e and g from holotype; d and f from Smith 73/66 (MEL).

similar to that of the distal branch-parts. *Floral bracts* very variable, flat curved or undulate, erect spreading or sometimes reflexed with maturity, elliptic to ovate-oblong to broad-rhombic, from almost truncate and suddenly contracted into a blunt tip to broad- or narrow-acute, 1.5-4.5(-5) mm long x 1-3(-3.5) mm wide with length < to > width, densely to sparsely hairy dorsally with short \pm spreading hairs, glabrous ventrally, greenish-yellow to reddish-tinged, from sometimes caducous (falling early from flowers) to persistent even in fruit. *Pedicels* (1-) $1.5-4.5(-5)$ mm long (from base to midpoint of torus), straight to curved, spreading to strongly reflexed, from c. half as long as to much exceeding the floral bracts, resembling the distal branch-parts in vestiture. *Perianth* 6-9(-10) mm long (from midpoint of torus to top of arch) x 1.5-3 mm wide, sparsely to densely hairy outside with a mixture of loosely appressed straight or gently waved longitudinally directed hairs and longer spreading waved or twisted ones, glabrous inside; hairs whitish, or those of the limb reddish or pale ferruginous; body of perianth greenish to fawn, the arch blackish-purple or almost black or sometimes light purple, especially inside; external colour partly obscured by the indumentum. *Anthers* (0.7-) $0.8-1.2(-1.3)$ mm long, lemon yellow to pale creamy yellow. *Torus* oblique to almost straight with a prominent semi-annular to bluntly V-shaped nectary. *Stipe* 1-3 mm long, sparsely to densely hairy, with \pm straight, appressed to spreading, greyish-white to pale ferruginous hairs; stipe arising close to summit of torus, and from slightly shorter to considerably longer than the ovary. *Ovary* prominently stipitate, densely hairy with long, erect to spreading, straight to curved or slightly twisted greyish-white to pale ferruginous hairs. *Style* on flowers (9-) $10-12(-13)$ mm long in ssp. *brevistyla* or 17-21 mm in ssp. *montis-cole*, bright red, straight curved or bent, glabrous except at base where sparsely to strongly hairy, the hairs frequently extending up style for several mm; fruiting styles generally 1-6 mm longer than the flowering styles at least in ssp. *montis-cole*. *Pollen-presenter* (stigmatic disc) greenish yellow, slightly to very oblique, with a broad undulate-crenulate rim rising to a low oblique cone terminated by a rounded or flattish pale cream-yellow stigmatic tip. *Fruit* prominently stipitate, (8-) $9-12(-14)$ mm long x (3-) $3.5-5.5(-6)$ mm wide, asymmetrically ellipsoidal, densely hairy with a mixture of \pm appressed to spreading straightish hairs and much longer spreading, straight to gently twisted ones; hairs greenish-grey to fawn (sometimes light ferruginous when dry), but blackish-purple in longitudinal bands or patches on the dorsal and lateral surfaces. *Seed* body elliptic in outline, 6.5-8.5 mm long x 2-3 mm wide, dark brown to black, glabrous, smooth or minutely wrinkled, gently convex on outer face, \pm flattened or depressed on inner face, surrounded by a thin pale yellow wing from 0.5 mm to almost obsolete on the lateral margins, to 1-2.5 mm wide at top and bottom.

subspecies *montis-cole*

Stylus floris 17-21 mm longus est.

Description and measurements are as given above for the species, except for the restriction of the flowering style length to 17-21 mm. Leaves are mostly longer than wide.

TYPE COLLECTION:

Mt Cole State Forest, Glut area, east aspect slopes close to Sandersons Road — Glut Road link, c. 400 m from Glut Road, c. 520 m alt., central-western Victoria (Grid J.14), 9.xi.1965, *R. V. Smith 65/183* (Holotype: MEL 611505. Isotypes: AD, CANB, K, MEL 611506 and 611507, NSW).

SELECTED SPECIMENS EXAMINED:

Victoria (central-western; Mt Cole State Forest) — North slopes of Mt Buangor, c. 900 m alt., 16.xi.1970, *R. V. Smith 70/33* (AD, BRI, CANB, K, MEL 611518 and 9, NSW, PERTH); Glut area, Sandersons Road, c. 520 m alt., 5.xii.1973, *R. V. Smith 73/66* (AD, BRI, CANB, HO, MEL 611516 and 7, NSW, PERTH); Glut area, near Tunbridges Road, c. 580 m alt., 5.xii.1973, *R. V. Smith 73/69* (BRI, HO, MEL 611512 and 3, NSW); Saddle between Cave Hill and Mt Sugarloaf, c. 700 m alt., 5.xii.1973, *R. V. Smith 73/72* (AD, CANB, MEL 611508 and 9, NSW).

DISTRIBUTION AND HABITAT:

Apparently confined to the Mt Cole State Forest, north-west of Beaufort, in central-

western Victoria. It occurs on granite formation within an altitudinal range from c. 520 m in the Glut area to c. 900 m on the north slopes of Mt Buangor.

This subspecies occurs in a number of different plant associations which include *Eucalyptus obliqua*, *E. sp.* (Peppermint), *E. nitida*, *E. st-johnii*, *Acacia dealbata*, *A. diffusa*, *A. myrtifolia*, *A. verticillata*, *Bursaria spinosa*, *Correa reflexa*, *Epacris impressa*, *Helichrysum dendroideum*, *Platylobium obtusangulum*, and *Pteridium esculentum* at the lower elevations; at the higher elevations the associations include *Eucalyptus pauciflora*, *E. st-johnii*, *E. dives*, *E. macrorhyncha*, *E. nitida*, *E. goniocalyx*, *Acacia diffusa*, *A. oxycedrus*, *Astrotricha sp.*, *Daviesia ulicifolia*, *Dodonaea cuneata*, *Epacris impressa*, *Helichrysum obcordatum*, *Kunzea parvifolia*, *Leptospermum juniperinum* and *Pultenaea daphnoides*.

subspecies **brevistyla** R. V. Smith, ssp. nov.

Differt subsp. *montis-cole*, stylo floris (9-)10-12(-13) mm longo.

Description of flowering material essentially as for the species except for the restriction of the flowering style length to (9-)10-12(-13) mm. Fruits and seeds not seen. Leaves vary from about as wide as long to a little longer than wide. Younger and intermediate leaves are somewhat more pubescent below than in the ssp. *montis-cole*. Measurements of plant parts usually fall within the lower limits of those given for the species.

TYPE COLLECTION:

Mt Langi Ghiran, north facing slope on NE. shoulder along water supply pipe track, c. 850-900 m alt., western Victoria, 37°17'S, 143°07'E, 31.x.1981, *M. G. Corrick 7493* (Holotype: MEL 603607! Isotypes: AD!, CANB!, K!, MEL 603608!, NSW n.v., PERTH!).

SPECIMENS EXAMINED:

Victoria (western; Mt Langi Ghiran) — Ibidem for type collection, 31.x.1981 *M. G. Corrick 7494* (CANB!, MEL 603609!, NSW n.v.).

DISTRIBUTION AND HABITAT:

Apparently confined to Mt Langhi Ghiran in western Victoria, and there known only from a single population on the north-east shoulder.

As with the ssp. *montis-cole*, it occurs on granite formation and apparently occupies a similar habitat to that of the typical subspecies at Mt Buangor. Associated plants recorded are *Dodonaea cuneata*, *Kunzea parvifolia*, and *Astrotricha sp.*

DISCUSSION

Grevillea montis-cole shows closest affinities with *G. steiglitziana* N. A. Wakefield and *G. floripendula* R. V. Smith. These three species have very similar floral bracts, which are either flat, gently curved or undulate, but not concave, and vary in shape from elliptic to ovate, ovate-oblong, or rhombic. Distinguishing characters are given in table 1. The ssp. *brevistyla* shows some approach to *G. floripendula* in the short style, the leaves varying from wider than long to a little longer than wide and also in the tendency to show a noticeable pubescence on the under surface of the leaves, but in all other respects it accords well with *G. montis-cole* ssp. *montis-cole*.

G. montis-cole differs from *G. dryophylla* and *G. microstegia* primarily in the floral bracts. The latter two species, discussed under *G. floripendula* in *Muelleria* 4:426 (1981), have floral bracts which are strongly concave, thickened in the lower part and from ovate-rhombic to broad-rhombic.

G. montis-cole ssp. *montis-cole* shows considerable variation in leaf size and number of primary lobes, even within a very limited area. This was particularly noticeable in the Glut area near Tunbridges Road, where almost the full range of size and lobe number was found (R. V. Smith nos. 73/68, 76/69, 73/70, 73/71).

Character	<i>G. montis-cole</i>	<i>G. steiglitziana</i>	<i>G. floripendula</i>
Leaves			
number of primary lobes	(3)-5-12(-22)	3-5(-7)	(3)-5-7(-9)
secondary lobes	deltoid, narrowly triangular (longer than wide) to \pm lanceolate, 1-12 mm long x 1-7 mm wide. (Generally longer and narrower than in <i>G. steiglitziana</i> & <i>G. floripendula</i> .)	deltoid to broadly triangular (wider than long, often much wider); (1)-2-8(-10) mm long x 2-8(-10) mm wide.	occasionally narrowly triangular, but mostly deltoid to broadly triangular (frequently much wider than long); 1-6(-8) mm long x 1-5(-8) mm wide
tips of lobes	generally more gradually contracted into a longer spine than in <i>G. steiglitziana</i> and <i>G. floripendula</i> ; spine (1-)1.5-2.5 mm long	generally \pm suddenly contracted into a spine (0.5-)1-1.5(-2) mm long	generally suddenly contracted into a spine 0.5-1.5 mm long
Indumentum			
general	predominantly spreading longish, straight, curved or gently twisted hairs	predominantly appressed straight or gently curved, "directional" hairs	curled or twisted hairs, some loosely appressed others strongly spreading
undersurface of leaves	glabrescent, except for scattered hairs mostly on midrib and main veins	strongly developed	strongly developed
Racemes	horizontal or slightly deflexed	horizontal or slightly deflexed	predominantly pendulous, on very slender peducles, occasionally \pm horizontal or deflexed
Flowering style			
length	17-21 mm (ssp. <i>montis-cole</i> (9-)10-12(-13) mm (ssp. <i>brevistyla</i>)	(14)15-20(-21) mm	7-9 mm
colour	bright red	bright red	yellow, greenish-yellow, pale pink to light red

Table 1. Distinctions between *Grevillea montis-cole*, *G. steiglitziana* and *G. floripendula*.

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